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REMARKS

Claims 1-4 and 6-27 are currently pending in the subject application and are presently under consideration. Favorable consideration of the subject patent application is respectfully requested in view of the comments herein.

I. Rejection of Claims 1-2, 4, 7-10 and 17-21 Under 35 U.S.C. §103(a)

Claims 1-2, 4, 7-10 and 17-21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kemmer *et al.* (US 4,234,831) in view of Spinner *et al.* (US 5,771,174) and Mizutani (US 5,532,533). Withdrawal of this rejection is requested for the following reasons. Kemmer *et al.*, Spinner *et al.* and Mizutani, either alone or in combination, fail to teach or suggest each and every limitation as set forth in the subject claims.

To reject claims in an application under §103, an examiner must establish a *prima facie* case of obviousness. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) *must teach or suggest all the claim limitations*. See MPEP §706.02(j). The *teaching or suggestion to make the claimed combination* and the reasonable expectation of success *must be found in the prior art and not based on the Applicant's disclosure*. See *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) (emphasis added).

Independent claims 1 and 17 recite similar claim language, namely, *a control system integrated with the amplifier, the control system having a network interface operative to receive control information, the control system being operative to control the amplifier to selectively energize the coils to effect desired movement of the plunger based on the control information received via the network interface, wherein the control system and an associated rotary-linear motor are integrated into a single module*. It is apparent that the invention as claimed comprises a control system that is integrated with an amplifier, the control system together with the integrated amplifier further comprises a

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network interface operative to receive control information. The control system as claimed is able to control the integrated amplifier to selectively energize the coils to effectuate movement of the plunger based on the control information received *via* the network interface that forms part of the control system. The control system and the rotary-linear motor as claimed is integrated into a single module to form an indivisible whole. Kemmer *et al.*, Spinner *et al.* and Mizutani, either alone or in combination, are silent regarding these novel features of the claimed invention.

As the Examiner acknowledges in the Final Office Action dated April 15, 2004, Kemmer *et al.* is silent regarding both a network interface operative to receive control information, and a control system that is integrated with a rotary-linear motor to form a single unit. Moreover, as the Examiner fails to state, Kemmer *et al.* is further deficient in failing to teach or suggest the fact that the control system that is integrated together with the rotary-linear motor to form a single indivisible unit comprises not only an integrated amplifier to selectively energize the coils, but also a network interface operative to receive control information, thus allowing the control system to control the integrated amplifier to selectively energize the coils of the integrated rotary-linear motor.

In order to make up for the deficiency presented by Kemmer *et al.*'s lack of teaching or suggestion of the network interface operative to receive control information, the Examiner attempts to utilize Spinner *et al.* The Examiner directs applicants' representative to Figures 1 and 2, and col. 2, lines 49-52 and col. 4, lines 23-30, stating:

Spinner teaches a distributed intelligence control system for controlling plural actuators 26 (Fig. 2) and respective controllers 30 connected by connections 32 with a network bus 24 and gateway or "network interface" 22 (Fig. 1). The network interface interprets messages from the supervisory control system (computer) 20 and converts and distributes this information to the actuator controllers. The network interface also converts and transmits information originating for the actuator, e.g., position and status, to the control system (c. 4, lines 23-30). Such a LAN network as in Spinner is desirable as a means of communication between a central host controller and a series of actuators (c. 2, lines 49-52). Final Office Action dated April 15, 2004, page 8-9.

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However, applicants' representative contends that the network interface as disclosed in *Spinner et al.* is not in any way contained within the control system, the control system and rotary-linear motor comprising a single module. Rather, *Spinner et al.* discloses a network interface that is distinct and separate from the control system and rotary-linear unit. In fact *Spinner et al.* illustrates as much in Figure 1, wherein the network interface, or gateway is illustrated as being distinct from the actuators. Further, the language of the claims at issue state: the control system *having* a network interface. According to The American Heritage College Dictionary (3rd ed 1993), *having* has the following connotation: "have v. **had, having, has** – *tr.* 1.c. To possess or contain as a constituent part." *Id.* at 622. Thus, it is clear that the network interface as recited in the subject claims forms a constituent part of the control system as claimed. Thus, contrary to the Examiner's assertion, the network interface as disclosed in *Spinner et al.* is not in any way a constituent part of the control system as recited in the subject claims.

The Examiner in recognition that both *Kemmer et al.* and *Spinner et al.* are silent regarding all the limitations set forth in the subject claims, and in particular, that *Kemmer et al.* and *Spinner et al.* fail to teach or suggest a control system integrated with a rotary-linear motor, asserts that Mizutani provides the relevant substantiation. While Mizutani provides a control apparatus integrated with a servo motor, Applicants' representative contends that since Mizutani fails to teach or suggest a control system having a network interface, and neither *Kemmer et al.* nor *Spinner et al.* teach or suggest this novel feature, that *Kemmer et al.*, *Spinner et al.* and Mizutani neither alone nor in combination teach or suggest all the limitations set forth in the subject claims. Accordingly, withdrawal of this rejection with respect to independent claims 1 and 17 (and claim depending therefrom) is respectfully requested.

II. Rejection of Claims 11-15 Under 35 U.S.C. §103(a)

Claims 11-15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Sudo et al.* (US 4,644,205) in view of *Spinner et al.* (US 5,771,174) and Mizutani (US 5,532,533). This rejection should be withdrawn for at least the following reasons. *Sudo et al.*, *Spinner et al.* and Mizutani, neither alone nor in combination, teach or suggest all the limitations set forth in the subject claims.

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Independent claim 11 recites *an integrated control system having a network interface operative to receive control information via an associated network, the control system being operative to selectively energize the first and second sets of coils to effect movement of the plunger in at least one of the linear and rotational modes, wherein the integrated control system and an associated rotary-linear motor are integrated into a single module*. As discussed *supra*, the control system as recited in the subject claim, integrates, *inter alia*, a network interface operative to receive control information from a network. The control system with the integrated network interface is further integrated with a rotary-linear motor are combined to form a single indivisible unitary whole, i.e. *a single module*. Sudo *et al*, Spinner *et al*, and Mizutani fail to teach or suggest these limitations as recited in the subject claim.

The Examiner acknowledges that Sudo *et al*. neither provides a network interface operative to receive control information *via* an associated network, nor does Sudo *et al*. provide for the integration of the control system and rotary-linear motor into a single module. Thus, the Examiner cites Spinner *et al*. and Mizutani to cure the deficiencies presented by Sudo *et al*. However, as stated above for claims 1 and 17, both Spinner *et al*. and Mizutani fail to teach or suggest *a control system having a network interface* as recited in the subject claim. Accordingly, since none of the cited documents teach or suggest all the limitations set forth in independent claim 11, withdrawal of this rejection and allowance of claims 11-15 is respectfully requested.

III. Rejection of Claims 1-10 and 16-21 Under 35 U.S.C. §103(a)

Claims 1-10 and 16-21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Sudo *et al*. (US 4,644,205) in view of Spinner *et al*. (US 5,771,174), Gerard (US 4,751,437) and Mizutani (US 5,532,533). This rejection should be withdrawn for at least the following reasons. Sudo *et al*., Spinner *et al*., Gerard and Mizutani, alone or in combination, fail to teach or suggest each and every limitation as set forth in the subject claims.

As has been stated above, Sudo *et al*, Spinner *et al*., and Mizutani fail to provide a control system that has as one of its constituent parts a network interface; the control system so constituted in turn being integrated with the associated rotary-linear motor to

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form a single module. Further, Gerard is silent regarding this salient feature. Accordingly, since none of the cited documents teach or suggest a control system having a network interface, this rejection should be withdrawn with respect to independent claims 1, 16 and 17 and claims that depend therefrom.

IV. Rejection of Claims 1-4, 7-10 and 16-21 Under 35 U.S.C. §103(a)

Claims 1-4, 7-10 and 16-21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kemmer *et al.* in view of Lee (US 4,692,678) and Mizutani (US 5,532,533). Withdrawal of this rejection is respectfully requested for at least the following reasons. Kemmer *et al.*, Lee and Mizutani, either alone or in combination, fail to teach or suggest all the limitations set forth in the subject claims.

As has been discussed above in relation to both Kemmer *et al.* and Mizutani, these documents fail to teach or suggest a control system that has a network interface as a constituent part of the control system, the control system so constituted being integrated together with a rotary-linear motor to form a single module. The Examiner asserts that Lee provides a network interface that forms a constituent part of a control system. In this regard, the Examiner directs applicants' representative to col. 5, lines 14-25, which states:

It is to be understood that the generalized function of sensing and interface means 2X is to provide an output to processing means W which, responsive to a program corresponding to particular dynamic (or other) conditions, will generate a correction or control signal. This signal, after amplifying through power amp Y acts to control the high frequency signal into excitation windings 15 and 16 (See FIG. 5) which, thereby, will control the high DC current through armature windings 20 and 21 and, thereby, will precisely control the movement of armature 18 relative to reference points "R" and "O". (See FIG. 1). col. 5, lines 14-25.

As is evident from the above-cited passage, Lee is silent regarding a control system that has a *network* interface, but rather Lee provides a closed loop control system that is separate and distinct from the servo-motor itself. Nowhere in Lee is it elucidated that the control system can have a network interface as one of its constituent parts, the control system so constituted then being integrated with an amplifier, and the integrated

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control system and amplifier further integrated with an associated rotary-linear motor to form a single module. Thus, since all the documents cited by the Examiner are deficient in failing to teach or suggest a *control system having a network interface* as recited in the subject claims, it is respectfully requested that this rejection be withdrawn and the subject claims be placed in condition for allowance.

V. Rejection of Claims 11-15 Under 35 U.S.C. §103(a)

Claims 11-15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Sudo *et al.* (US 4,644,205) in view of Lee and Mizutani. This rejection should be withdrawn for at least the following reasons. Sudo *et al.*, Lee and Mizutani, alone or in combination, fail to teach or suggest all the limitations set forth in the subject claims.

As discussed *supra*, the Examiner concedes that Sudo *et al.* fails to teach or suggest a control system having as one of its constituent parts a network interface, and thus attempts to rely upon Lee and Mizutani to make up the deficiencies presented by Sudo *et al.* However, as has been argued in relation to Mizutani and Lee, both documents are silent regarding a *control system having a network interface*. Accordingly, it is submitted that since each and every limitation contained within independent claim 11 is not taught or suggested by the documents cited by the Examiner, that this rejection should be withdrawn with respect to independent claim 11 and those claims that depend therefrom.

VI. Rejection of Claim 22-27 Under 35 U.S.C. §103(a)

Claim 22-27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Sudo *et al.* in view of Horikoshi *et al.* (US 5,142,172), Gerard (US 4,751,437) and Spinner *et al.* (US 5,771,174). Withdrawal of this rejection is respectfully requested for at least the following reasons. Sudo *et al.*, Horikoshi *et al.*, Gerard and Spinner *et al.*, alone or in combination, fail to teach or suggest all the limitations set forth in the subject claims.

Independent claim 22 recites *a control system and a network interface integrated into a single module, the control system integrated with a rotary-linear actuator, the network interface receiving and transmitting at least one of control and diagnostic*

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information to an associated network. Sudo et al., Horikoshi et al., Gerard and Spinner et al. alone or in combination fail to teach or suggest the novel features recited in the subject claim.

As the Examiner acknowledges, Sudo *et al.* is deficient on many grounds, but in particular, Sudo *et al.* fails to teach a control system and a network interface integrated into a single module. In order to rectify this particular deficiency, the Examiner cites Spinner *et al.* However, as has been discussed *supra*, Spinner *et al.* fails to teach or suggest a control system that has a network integrated thereupon. Thus, the combination of Sudo *et al.*, Horikoshi *et al.*, Gerard and Spinner *et al.*, contrary to the Examiner's assertions, does not teach or suggest each and every limitation set forth in the subject claim. Accordingly, in view of the foregoing, it is respectfully requested that the rejection of independent claim 22 together with claims that depend therefrom, should be withdrawn.

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CONCLUSION

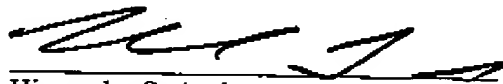
The present application is believed to be in condition for allowance in view of the above comments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063.

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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